

**Abstract of the Disclosure**

A noiseless amplifier circuit has an amplifier, a first circuit that isolates amplifier generated noise and provides the desired gain, a second circuit that  
5 cancels the amplifier generated noise from the output signal from the amplifier, a closed loop feedback third circuit that modulates the input signal to the amplifier to compensate for amplifier generated noise, and first and second controls that keep phase and amplitude  
10 balanced at a combiner in the first and second circuits, respectively. An oscillator circuit and a mixer circuit incorporate the noiseless amplifier circuits.